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Mobile Learning Readiness Among UKM Lecturers

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Abstract

Mobile technology is providing a new frontier for the application of educational technology within the academia. However, as with any relatively new technology, much has to be understood about the concept of mobile learning before it can be employed effectively. One of the most logical early steps is to understand the perception of the stakeholders, including lecturers and students. This is the angle of approach taken by Universiti Kebangsaan Malaysia, and this paper presents the results of a survey on UKM lecturers about their perception on mobile learning and training. The findings will help in formulating a well-planned and user-centric approach for the application of mobile technology for the purpose of learning and training within the institution. The results of the survey show that 65% of the respondents are owners of smart or mobile phones. The respondents also indicated a favourable perception of m-learning although 79% of them have never used it. This favourable perception of m-learning correlates to favourable experience with e-learning, which suggests that familiarity with teaching via technology may also play a factor in their responses. The majority (85.7%) also believe that mobile learning would be useful for their students, and cited flexibility as the main reason (90.1%).

Keywords: Design strategies; e-learning; mobile content development; mobile learning; readiness study

1. Introduction

Recent advances in technology have allowed rapid miniaturization of various computing devices. Mobile computing devices in various form factors such as tablets and smart phones have not only been a viable platform to carry out various tasks, but also being rapidly improved in terms of usability, processing power and connectivity. While tablets and smart phones have been around since 1990s, it is probably the introduction of Apple's iPhone and iPad that provided the major impetus for renewed industrial interests in mobile devices. The aim of creating usable and connected mobile devices is not a far-fetched vision anymore, it is already a reality. The availability of such convenient platforms brings about a new set of challenges for educators and trainers. Learners are getting more familiar with mobile gadgets, and as a result, their preferences and methods for knowledge acquisition and sharing will change too. Educators will have to face the challenge of not only knowing the technology, but also how it affects learners. In the Universiti Kebangsaan Malaysia (UKM), the use of mobile learning is in its early gestation

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where very few lecturers have actually used it in class or research it deeply. This paper presents the findings of a survey carried out to gauge the readiness of UKM's lecturers for mobile learning.

It is instructive to bear in mind that there are similarities between the fields of e-learning and mobile learning (m-learning) as they share the same roots within the umbrella concept of distance education (Gladiuex & Swail, 1999). This means that institutions could leveraged their existing base of expertise and experience in e-learning to adopt and implement m-learning. The personal nature of mobile phones and their portability means that m-learning has a huge potential in education (Vogel et al., 2010).

2. Methodology

Data was collected through an online survey carried out over a period of one month. A 35-item questionnaire was used to gather responses from the sample population. A total of 374 lecturers responded from a population of 1500 academic staff. 61.1% of the respondents are females and the rest are males. They range in age from 25-30 (8.6%), 31-40 (37.5%), 41-50 (38.7%) and over 50 (16.1%). The respondents' teaching experiences are: less than 5 years (23.9%), 6-10 years (19.8%), 11-15 (25.7%) and more than 15 years (30.6%).

3. Findings

The respondents seem to have adequate familiarity with e-learning. Table 1 shows their experience in using e-learning, and it seems that only a small minority is not using e-learning in UKM.

Table 1. Have used e-learning before

Yes, only the system provided by the university (SPIN).	59.3%
Yes, including external systems/free services such as blogs, wikis etc. available online outside of UKM.	31.1%
No	9.6%

The fact that the majority of the respondents have used e-learning before means they are already exposed to the use of technology for learning. This fact may explain their response when asked if they would utilize m-learning if it is made available in UKM. A total of 90.9% of the respondents answered in the positive to the question. This is despite the fact that 79% of them have never utilized m-learning for their own learning and 84.8% have never used it to teach their students. This is in line with the literature that views m-learning as an extension of e-learning or online learning (Yamaguchi, 2005), and thus exposure to e-learning will ease the one's adoption and perception of m-learning.

The respondents were also asked if they think that m-learning will enhance their students' learning experience. A total of 293 (85.7%) of the respondents said 'Yes' to the question. The reasons for their positive response are shown in Table 2.

Table 2. Reason for choosing 'Yes'

Answer Options	Percentage
It is a convenient way to learn as most of my students use mobile/smart phones.	76.9%
It will make learning more flexible.	90.1%
I think it will make learning more interesting/enjoyable.	79.6%
It will help with better understanding of learning materials.	46.6%
I think my students will enjoy using their phones and mobile devices for learning.	76.2%
Other (please specify)	7.1%

It seems that the lecturers recognize the major feature and advantage of mobile technology for learning i.e. it confers a greater degree of flexibility to both learners and teachers. Mobile learning has often been associated with the concept of "just enough, just in time and just for me" model of content delivery and interaction. The affordances of a flexible method of content delivery, communication and content creation (albeit in a limited manner) device is a recognized by the respondents. The respondents also gave a high rating to the option I think it will make learning

more interesting/enjoyable (79.6%). This may be due to the fact that the respondents view mobile learning as something novel, and therefore would be more interesting and enjoyable than computer-based e-learning. This observation is supported by the fact that 76.2% of the respondents believe their students would enjoy using mobile devices for learning. It is important to note that even though the majority have not experienced m-learning for themselves, they have a favorable view to the idea of m-learning. This lack of experience probably explain their low agreement on item *It will help with better understanding of learning materials* which was given only 46.6%. As educators they are probably aware of the value of instructional design in learning materials and that a simple change of form-factor (from computer screens to smaller mobile devices) would not promise a better user uptake and understanding of the learning materials.

The respondents were next asked about device ownership. This is important to determine if they have the necessary tools in hand to experience m-learning. Table 3 shows the breakdown of device ownership among the lecturers participating in the survey.

Table 3. Device Ownership

Device	Ownership
Mobile phone	65.2%
Smart phone (mobile phones with much more advanced hardware and capabilities such as iPhone, Blackberry)	52.1%
Personal Digital Assistant (PDA)	7.9%
Tablet or E-book reader (e.g iPad, Kindle, Slate)	12.2%
Portable Music/Video Player (e.g iPod, Zune)	7.9%
Netbook	19.5%
Notebook or Laptop	89.5%
Desktop Computer/Personal Computer	77.9%

As Table 3 shows, device ownership is highest for notebooks and laptops (89.5%). This is followed by desktops at 77.9%. The majority of UKM's lecturers own computers like their counterparts from anywhere around the region. However, only half of them (52.1%) own smart phones, which is the current icon of mobility. The ownership of tablet computers and e-book readers are also low at only 12.2%. Some researchers and tech-writers may argue that this is the 'post-PC' world; and while this argument makes sense to device manufacturers to focus their R&D, efforts to introduce mobile-learning should be gradual and do not totally cut off older, less mobile technologies. This could be achieved by developing mobile web apps instead of the traditional, platform-specific apps such as found on most Android and iPhones. Mobile web apps are basically website or web applications that are designed to run well on mobile devices first, but are still very usable on traditional desktop computers or notebooks. Jenson (2011) argues that the 'just-in-time' interaction model of mobile devices is best embodied in the form of mobile web apps rather than normal mobile apps. Furthermore, from the development point of view, it is much more economical to develop once and run on multiple mobile operating systems. Another advantage is that mobile web apps can be developed using tools that are already matured such as HTML, CSS and Javascript. This means that most web developers can contribute to developing for mobile without having to learn radical new skills.

This is the approach taken with UKM's first mobile web app for training, the JiT2U training series (http://jitzu.ukm.my). The JiT2U web app is designed to be used on mobile smart phones using Android, iOS, Blackberry OS and Symbian S60 operating systems. However, it also runs perfectly well in latest versions of modern browsers such as Chrome, Firefox and Safari on the desktop. The development process was much simplified as the team could focus on developing for the browsers' feature sets as opposed to specific browsers in each of the mobile operating systems mentioned earlier. In order for this advantage to be utilized effectively, users must aware of the different choices of browsers available for their mobile devices. When asked if they use any mobile-specific browsers such as Firefox for Android or Opera Mini, only 34.8% of the respondents said they do while 35.5% said they only use the default browser that comes with their mobile devices. This indicates a need to raise awareness on the availability of alternative mobile browsers to UKM's lecturer. In the long run, it will make easier to develop

contents for the lecturers as alternative mobile browsers adhere better to standards that can be used as a benchmark for development.

Apart from their normal duties of teaching, researching and publishing, academic staff at UKM is also expected to undergo training periodically to further enhance their professional development. When asked if they are favorable to the idea of providing mobile-optimized contents as an additional option for their training programs in UKM, 81.5% of the respondents said 'Yes', 9.1% said 'No' and 9.4% 'Not Sure'. The majority of those who chose 'Not Sure' commented that they have no idea about what m-learning is capable of and therefore unable to decide. It seems that more must be done to raise awareness on the benefits and challenges of m-learning as this will better prepare the staff to utilize it.

The respondents were also asked on the form of contents that they believe will be most suitable for their training needs. Table 4 shows their preferences:

Table 4. Preferred content format

Text only	3.7%
Text with limited media (e.g. images only)	21.8%
Text with full multimedia (audio & video)	53.5%
Multimedia with limited textual contents	7.4%
Not Sure	13.5%

The majority of the respondents chose *Text with full multimedia* as their preferred content format. This format plays to the particular strength of mobile devices in content delivery as the limited screen size makes long texts unwieldy for users. The combination of texts and full multimedia also adheres to the 'just-in-time' principle by catering to different user preferences as they can read as well as interact with the multimedia contents. However, there are two challenges presented by the findings in Table 4. First, development of multimedia materials is neither cheap nor easy. It uses a lot of resources, especially money and time, and requires thoughtful planning to be effective. In UKM, the primary mode of teaching is still face-to-face, and the e-learning culture has not evolved sufficiently beyond posting of classroom resources online using the learning management system. There are exceptions to this; however the number is rather small. In order to produce and make use of quality multimedia materials for learning and training, there must be a concerted effort by the university administration to provide enough resources. Secondly, multimedia playback requires capable mobile devices with adequate processing power and screen size. Implementing multimedia oriented m-learning and m-training would first require wide availability of such devices among the target population i.e. lecturers and students at UKM.

The respondents were also asked about what functions and services they believe are needed for successful implementation of m-learning in UKM. Table 5 shows their responses:

Table 5. What is required for e-learning system to be successful?

It must be integrated with the e-learning/e-training platform of the university.	84.3%
It must be able to support the traditional learning for example by providing supporting educational information like timetable, lecture topics, test dates, exam results etc.	79.7%
It must provide convenient access to learning materials comfortable to the interface of the mobile devices.	77.8%
It must be capable of sending information regularly via MMS/SMS.	60.9%
It should allow the users to download or read off-line files or materials on mobile devices.	66.8%
Information presented should be clear/brief/suitable for mobile devices interface.	69.8%
It should allow faster communication between students and teachers/trainers.	78.2%
It should facilitate collaboration between students.	64.6%
It should allow for quizzes or tests to be taken via mobile devices.	34.5%
Other (please specify)	3.1%

The respondents gave a high rating to the idea of integration between the existing e-learning platform and mobile learning. This is in line with the view that m-learning should be an extension of e-learning technology employed by the institution. This approach would also be beneficial as it can provide coverage through a wider spectrum of delivery methods and would not be a burden on those without sophisticated mobile devices. The findings also

indicate that the issue of mobile interface is a priority for the respondents as 77.85% of them believe that learning materials should be made suitable for delivery on mobile devices. A total of 77.9% of the respondents also want the m-learning platform to be able to support traditional learning by providing supporting educational information such as timetables, lecture topics etc. In this role, the m-learning platform becomes an assistive technology to the traditional method of course delivery in UKM which is still predominantly face-to-face. In organizations where m-learning is being introduced, this assistive role should be one the first steps focused on in order to gain the trust of the users.

4. Conclusion

This paper has given an overview of the level of implementation of mobile learning in UKM. The core of the paper is about a survey conducted to assess the readiness of UKM academic staff for mobile learning. The results indicate that the lecturers view m-learning favorably, yet there are a few challenges to overcome. The most immediate issue is the lack of awareness among the staff on the benefits and shortcomings of m-learning. The other important issue is that the ownership of mobile devices is still quite low. If UKM is to implement m-learning, it has to has to give priority to solve these issues as well.

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